

### 30. REDESCRIPTION OF *ARANEUS FULVUS* DYAL (ARANEAE: ARANEIDAE) FROM COASTAL ANDHRA PRADESH

(With a text-figure)

Tikader (1982) has revised the family Araneidae from India and described with illustrations nine species of the genus *Araneus* Clerck. Unfortunately Dyal's (1935) collection of *Araneus fulvus* Dyal, *A. alboquadratus* Dyal, *A. camilla* (Simon), *A. formosus* Dyal and *A. umbratica* (Clerck) from Lahore (now in Pakistan) were not considered by him in his revisionary work.

Caporiacco (1934-1935) described *Araneus cucurbitinus* Clerck, *A. altiudinum* Cap., *A. obscurissimus* Cap., *A. carbonarius* (L. Koch), *A. angulatus* Clerck, *A. pontii* Cap., and *A. redii* Scopoli from Karakoram, Himalaya. Out of these seven species only *A. cucurbitinus* is included by Tikader (1982) in his fauna and the redescription and illustrations of it are given based on one specimen collected by him from Shillong, Meghalaya; the rest are omitted. These omissions may be due to unavailability of these type-specimens.

While examining the spider collections made by one of us (TSR) from coastal Andhra Pradesh, we came across *Araneus fulvus* Dyal (1935), which is described and illustrated here as Dyal's description and a simple dorsal view diagram based on a single female specimen are found inadequate.

#### *Araneus fulvus* Dyal (1935)

(Fig. 1, A - G)

**Specimens examined:** 2 f, 1 m Tekkali, 3 f Palasa and 1 f Budumur, Dist. Srikakulam; 5 f, 2 m Gajapathinagaram, 2 f Bobbili and 1 f, 1 m Viganagaram, Dist. Viganagaram; 1 f Araku, 3 f, 2 m Anakapalli, 2 f, 1 m Bhimili, 4 f, 2 m, Simhachalam, 5 f, 2 m Elamanchili, Dist. Visakhapatnam; 6 f, 3 m Draksharamam, 3 f Ambojepeta, 4 f, 3 m Kesavaram, 1 f Amalpuram and 3 f, 1 m Tuni, Dist. East Godavari; 2 f Doramamidi, 2 f Kovvur, 7 f, 3 m Chinthalapuli, 2 f, 2 m Eluru, Dist. West Godavari; 4 f 1 m Kaikalur, 2 f Machilipatnam and 3 f, 2 m Pamarru, Dist. Krishna; 3 f Chinamatlapeedi, 5 f, 1 m Kanagala, 3 f, 1 m Mangalagiri, 7 f, 2 m Tenali, 1 f Vinukonda and 9 f, 4 m Valiveru, Dist. Guntur; 2 f, 2 m Chirala, 6 f, 2 m

Podile, 1 f Tangutur, 2 f Kanigiri and 2 f, 1 m Darsi, Dist. Prakasam; 4 f, 1 m Nellore, 3 f Manubolu, 5 f, 1 m Nayudupeta, 4 f, 2 m Atmakur and 1 f, 1 m Kota, Dist. Nellore. Coll. T.S. Reddy during the years 1985 to 1988.

**General:** Cephalothorax reddish black, legs reddish brown, abdomen yellowish brown. Total length 19.06 mm. Carapace 6.40 mm long, 4.80 mm wide; abdomen 13.06 mm long, 7.46 mm wide.

**Cephalothorax:** Longer than wide, reddish black in colour. Cephalic region high and covered with grey hairs. Cephalic region is clearly separated by a distinct cervical groove. Centre of the thoracic region is provided with an indistinct transverse groove. Both rows of eyes recurved. Anterior medians are much larger than the posterior medians, anterior laterals are larger than the eyes of posterior row. The distance between anterior medians is one-third of the distance between anterior median and anterior laterals and the distance between posterior medians is one sixth of the space between posterior medians and posterior laterals. Lateral eyes are contiguous and situated on a tubercle (Fig. 1 a). Ocular quad longer than wide and much wider in front than behind. Sternum cordate and pointed behind, orange in colour, clothed with pubescence and grey hairs. Labium nearly as long as wide, orange with pale outer margin and provided with thin hairs. Maxillae orange, distal end pale and provided with scapulae. Chelicerae moderately strong, dark brown, provided with median boss, inner and outer margins of fang furrow provided with five teeth each. Legs long, strong, reddish brown, clothed with hairs and spines. Tibiae and metatarsi I and II provided with seven pairs of stout ventral spines and III and IV with four pairs of ventral spines. Leg formula 1/2/4/3.

**Male:** It is similar but smaller than the female. Total length 11.58 mm. Structure of male palp is as in Fig. 1, e-g.

**Abdomen:** Oblong, rounded at both ends, without any shoulder prominence or tubercles, yellowish brown in colour. Abdomen dorsally provided with a pair of undulating streaks extending

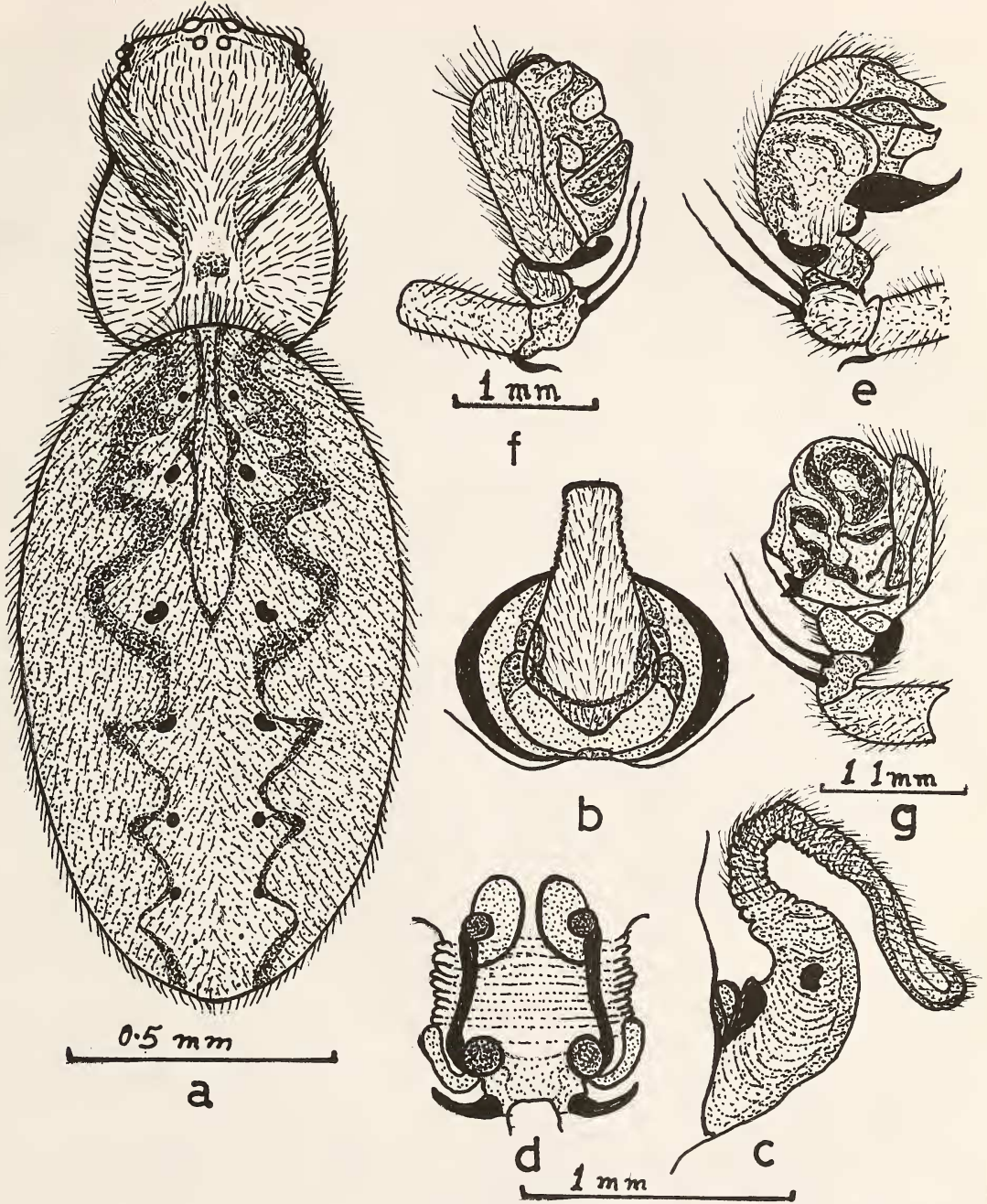


Fig. 1

Fig. 1. *Araneus fulvus* Dyal. a. Dorsal view of female (legs omitted), b. Epigyne, c. Epigyne, lateral view, d. Internal genitalia, e. Right male palp, ventral view, f. Right male palp, outer view, g. Right male palp, inner view.

from the anterior to the posterior end; anterior half is provided mid-dorsally with a spear shaped dark lined design. Dorsum provided with six pairs of sigillae arranged mid-longitudinally as in Fig. 1a. Ventral side is brownish black, with a pair of yellowish spots in the centre. Epigyne with a long and wrinkled scape bent at right angles to the body and a pair of basal lamellae as in Fig. 1b, c. Internal genitalia as in Fig. 1 d.

**Distribution:** All the nine districts of coastal

Andhra Pradesh and Gol Bagh, Lahore (now in Pakistan).

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### 31. CLADOCERA OF KEOLADEO NATIONAL PARK, BHARATPUR, IV. NEW RECORDS: *CAMPTOCERCUS* CF. *AUSTRALIS* SARS, 1896 AND *INDIALONA GLOBULOSA* (DADAY, 1898)

(With ten text-figures)

Hitherto, 36 genera containing about 88 species of Cladocera have been recorded from India (Michael and Sharma 1988, Venkataraman 1983, 1992). This may constitute only a part of the total number of species which actually occur in varied habitats in different parts of the subcontinent. The present note deals with two more of the Cladocera species recorded from Keoladeo National Park, Rajasthan. *Camptocercus* cf. *australis* Sars, 1896 is new to the Indian subcontinent while *Indialona globulosa* (Daday, 1898) is recorded for the first time in Rajasthan.

Family: CHYDORIDAE Stebbing, 1902

Subfamily: ALONINAE Frey, 1967

Genus: *Camptocercus* Baird, 1843

***Camptocercus* cf. *australis* Sars, 1896 (Figs. 1-5)**

**Morphological features:** Female; size 0.62-0.73 mm. Body oval; maximum height slightly before middle of the body (Fig. 1). Valve with longitudinal line. Posteroventral corner of valves rounded; posterior margin slightly convex with a series of setae. Head keel present, dorsal margin of head and dorsal side of valve forming a smooth curve (Fig. 2). Ocellus smaller than eye. Posteroventral

corner rounded with three small denticles, attached submarginally between the series of fine setules and slightly projecting beyond the margin of the valves (Fig. 4). Rostrum pointed and directed anteriorly. Antennules not reaching the apex of rostrum. Setae on antenna are 0-0.3/0-1.3. Plate of labrum with rounded apex (Fig. 3). Head shield with three pores. Post-abdomen long and narrow, with 15-18 anal denticles, lateral setae being small in a group (Fig. 5). Claw long, slightly curved dorsally and pointed dorsally. Basal spine about one fourth the length of claw, pointed on the proximal surface. Intestine forms loops with caecum.

**Distribution:** Very rare. Collected in Ghana canal of Keoladeo National Park and Ajan Bund reservoir of Bharatpur. Elsewhere — Australia (Henry 1922), China (Sieh-chih and Nan-shan 1979) and Malaysia (Idris 1983).

This is the first record of the species in India. However, Gurney (1907) reported this species from Chakradharpur without any illustration or details of characters to ascertain its validity. The present material differs slightly from *C. australis* by the presence of submarginal denticles on the posteroventral corner of the valves. Other species of